

Open River Field Station – FY2006 Product Highlights

1 October, 2005 – 30 September, 2006

Publications:

Barko, V.A., D.P. Herzog, and M.C. O'Connell. 2006. Response of fishes to floodplain connectivity during and following a 500-year flood event in the unimpounded Upper Mississippi River. *Wetlands* 26: 244-257.

Stewart, J.G., V.A. Barko, D.P. Herzog, D.B. Henry, J.W. Ridings, A.F. Kelley, and J.E. Wallace. 2005. Recent records of the Crystal Darter (*Crystallaria asprella*) in the Middle Mississippi River. *American Midland Naturalist* 153 (2): 199-201.

Reports:

Crites, J.W. and J.E. Wallace. 2006. Buffalo Chute Fisheries and Water Quality Monitoring. A status report covering the first year of monitoring, 2005-2006. USACE, St. Louis District.

Ridings, J.W. Submitted. LTRMP fisheries component collections of six darter species from 1989-2004; Examining gear, habitat class, and substrate effects on abundance of six darter species within the UMR. LTRMP Letter Report.

Crites, J.W. Submitted. Examining Nitrogen and Phosphorus Ratios N:P in the Unimpounded portion of the Upper Mississippi River. U. S. Geological Survey, Upper Midwest Environmental Sciences Center, La Crosse, WI. LTRMP Letter Report.

Nelson, F.A. 2006. FY06 Mingo Bottomland Hardwood Bird Project Report. Fiscal year 2006 Wildlife Diversity Fund accomplishments. Open Rivers/Wetlands Field Station, Gaylord Laboratory, Puxico MO.

Barko, V.A., M.T. O'Connell, A.M. Uzee-O'Connell, and J.H. Chick. In review. Asian Carp in the Mississippi River: Their impact on native fish species and predicted dispersal within the system. U. S. Geological Survey, Upper Midwest Environmental Sciences Center, LaCrosse, WI. Open File Report.

Battaglia, L., V. Barko, and D. Henderson. In final preparation. Structural and Functional Indicators of Bottomland Hardwood Forests within the Upper Mississippi River Ecosystem. U. S. Geological Survey, Upper Midwest Environmental Sciences Center, La Crosse, WI. LTRMP Technical Report.

Popular articles:

Figg, D., P. Horner, R. A. Hrabik, K. Kramer, A. Linsenbardt, T. Nigh, J. Pepper, T. Smith, and R. Thom. 2005. All wildlife conservation special issue. *Missouri Conservationist* 66(10).

Theses:

Fratto, Z.W. 2006. Development and evaluation of a fyke net excluder devices for use in large river systems. Master of Natural Science, Southeast MO State University, Cape Girardeau.

Technical Presentations:

Hill, E., L. Battaglia, and V. Barko. 2006. Exotic Plant Survey of Bottomland Hardwood Forests at Two Rivers National Wildlife Refuge. National Great Rivers Research and Education Center Student Symposium. Godfrey, IL.

Fratto, Z.W., V.A. Barko, and J.S. Scheibe. 2006. Efficiency of turtle excluder devices on passive fishing techniques in freshwater systems. Turtle Survival Alliance Annual Conference, St. Louis, MO.

Nelson, F.A. 2006. Reclaiming Shanks. USFWS/USGS Workshop on Reed Canary Grass (*Phalaris arundinacea*) ecology and management: The current state of knowledge and direction for an adaptive management project. Onalaska, WI.

Hrabik, R.A. 2006. Choosing function over form: thinking outside the geo-political box to restore large river systems. Resource Science Division Leadership Retreat, Clinton, MO.

Nelson, F. 2006. Mapping and Surveying: Yesterday, Today, and Tomorrow. Duck Creek Wetland Review at Duck Creek Conservation Area, Puxico, MO.

Nelson, F, and D. Henderson. 2006. Forest Communities of Pools 2, 3, and 8. Duck Creek Wetland Review at Duck Creek Conservation Area, Puxico, MO.

O'Connell, M.T., A.M. Uzee-O'Connell, V.A. Barko, and J.H. Chick. 2006. Silver carp (*Hypophthalmichthys molitrix*) and bighead carp (*H. nobilis*) in the Mississippi River Basin; occurrence data and dispersal patterns. International Conference on Aquatic Invasive Species, Key Biscayne, FL.

Hrabik, R.A. 2006. Gaylord Laboratory Review: Big Rivers/Wetlands Systems Field Station Results and Activities FY 2005-06. Gaylord Memorial Laboratory Annual Review. Jefferson City, MO.

Herzog, D. 2006. The use of the Missouri Trawl in Rivers and Streams large and small. Graduate seminar series, University of Missouri, Columbia, MO.

Barko, V.A., D.P. Herzog, and M.T. O'Connell. 2006. Response of fishes to floodplain connectivity during and following a 500-year flood event in the unimpounded Upper Mississippi River. Upper Mississippi River Conservation Committee, Hannibal, MO.

Nelson, F. and R. Kelly. 2006. Reclaiming Shanks. Missouri Natural Resource Conference, Lake of the Ozarks, MO.

Barko, V.A. 2006. Fish Tales from the Mississippi River. Illinois Natural History Survey, Champaign, IL.

Henderson, D.E., R. Doolen, K. Dacey, C. Hamilton, D. Wallace, and S. Sheriff. 2006. Monitoring the Effects Silvicultural Treatments on Growth, Survival and Masting of Bare-root and RPM® Planting Stock in private and public WRP Sites in Southeastern Missouri. MDC Resource Science Center, Columbia, MO.

Battaglia, L.L., V.A. Barko, and D.E. Henderson. 2006. Developing Indicators of Southern Bottomland Hardwood Forest Condition within the Upper Mississippi River Ecosystem. MDC Southeast Regional Office, Cape Girardeau, MO.

Henderson, D.E., Y. Yin, E. Kirsch, and G. Swenson. 2006. Next-Generation Forest on the UMR Floodplain. MDC Southeast Regional Office, Cape Girardeau, MO.

Fratto, Z.W., V.A. Barko, J.T. Briggler, P. Pitts, B. McKeage, and T. Johnson. 2005. The Development and Testing of Five Turtle Bycatch Reduction Apparatuses in the Gasconade and St. Francis Rivers, Missouri. Missouri Department of Conservation, Resource Science Division project reviews for FY06-07, Columbia, MO.

Hrabik, R.A. 2005. Considerations for large river restoration: examples from the Middle Mississippi River. University of Missouri-Columbia, Fish and Wildlife Seminar Series, Columbia, MO.

Hrabik, R.A., V.A. Barko, D.P. Herzog, D.E. Ostendorf, B. Johnson, T. Miller, and E. Laux. 2005. Buffalo Island rehabilitation: monitoring and evaluation. Missouri Department of Conservation, Resource Science Division project reviews for FY06-07, Columbia, MO.

Poster Presentations:

Herzog, D. P., V. A. Barko, D. E. Ostendorf, J. W. Ridings, J. E. Wallace, J. W. Crites and R. A. Hrabik 2006. The mini-Missouri trawl: A useful methodology for sampling small-bodied fishes in small river systems. North American Native Fishes Association annual meeting, Cape Girardeau, MO.

Stewart, J.S., V.A. Barko, D.P. Herzog, D.B. Henry, J.W. Ridings, A.F. Kelley, and J.E. Wallace. 2005. New records of the Crystal Darter (*Crystallaria asprella*) in the Middle Mississippi River. North American Native Fishes Association annual meeting, Cape Girardeau, MO.

Barko, V.A., J.H. Chick, M.T. O'Connell, and A.M. Uzee O'Connell. 2006. Use of long-term monitoring data to evaluate potential impacts of Asian Carp on native filter-feeders in the upper Mississippi River system. Asian Carp Symposium, Peoria, IL.

O'Connell, M.T., A.M. Uzee-O'Connell, V.A. Barko, and J.H. Chick. 2006. Silver carp (*Hypophthalmichthys molitrix*) and bighead carp (*H. nobilis*) in the Mississippi River Basin; occurrence data and dispersal patterns. Asian Carp Symposium, Peoria, IL.

Hill, E., L. Battaglia, and V. Barko. 2006. Exotic Plant Survey of Bottomland Hardwood Forests at Two Rivers National Wildlife Refuge. National Great Rivers Research and Education Center Student Symposium. Godfrey, IL.

Barko, V.A., J.T. Briggler, and D.E. Ostendorf. 2006. Passive fishing techniques: a cause of turtle mortality in the Mississippi River. Turtle Survival Alliance Annual Conference, St. Louis, MO.

Wallace, J.E., Z.W. Fratto, and V.A. Barko. 2006. An evaluation of the Donaldson Point Conservation Area, Missouri, turtle assemblage with an evaluation of turtle capture techniques. Turtle Survival Alliance Annual Conference, St. Louis, MO.

Barko, V.A., D.P. Herzog, and M.T. O'Connell. 2006. Response of fishes to floodplain connectivity during and following a 500-year flood event in the unimpounded Upper Mississippi River. American Society of Ichthyologists and Herpetologists Annual Meeting, New Orleans, LA.

Herzog, D. P., V. A. Barko, D. E. Ostendorf, R. A. Hrabik, J. W. Ridings, J. W. Crites and J. E. Wallace 2006. The Mini-Missouri trawl: A useful methodology for sampling small-bodied fishes

in small river systems. Joint Meeting of Ichthyologists and Herpetologists, New Orleans, Louisiana.

Barko, V.A., D.P. Herzog, and M.T. O'Connell. 2006. Response of fishes to floodplain connectivity during and following a 500-year flood event in the unimpounded Upper Mississippi River. International Conference on Rivers and Civilizations, La Crosse, WI.

Barko, V.A., J.H. Chick, M.T. O'Connell, and A.M. Uzee O'Connell. 2006. Use of long-term monitoring data to evaluate potential impacts of Asian Carp on native filter-feeders in the upper Mississippi River system. International Conference on Aquatic Invasive Species, Key Biscayne, FL.

Barko, V.A., J.H. Chick, M.T. O'Connell, and A.M. Uzee O'Connell. 2006. Use of long-term monitoring data to evaluate potential impacts of Asian Carp on native filter-feeders in the upper Mississippi River system. Missouri Natural Resources Conference, Lake of the Ozarks, MO.

Wallace, J.E., Z.W. Fratto, and V.A. Barko. 2006. An Evaluation of sampling gears and the aquatic turtles of Donalson Point Conservation Area, Missouri. Missouri Natural Resources Conference, Lake of the Ozarks, MO.

Hrabik, R., D. Herzog, D. Ostendorf, J. Ridings, J. Crites, C. Beachum, R. Brooks, T. Spier, R. Columbo, and J. Garvey. 2005. Reproductive Patterns and Macrohabitat Utilization by Larval Sturgeons in the Middle Mississippi River. 59th Annual Conference, Southeastern Association of Fish and Wildlife Agencies, St. Louis, MO.

Stewart, J.S., V.A. Barko, D.P. Herzog, D.B. Henry, J.W. Ridings, A.F. Kelley, and J.E. Wallace. 2005. New records of the Crystal Darter (*Crystallaria asprella*) in the Middle Mississippi River. Southeastern Association of Fish and Wildlife Agencies Annual Meeting, St. Louis, MO.

Research Proposals and Funded Research:

Long Term Resource Monitoring on Open River Reach. U.S. Geological Survey – Biological Resources Division, 1 October, 2005 – 30 September, 2006 (\$XXX).

Hrabik, R.A. 2006. Buffalo Island Chute Restoration and Evaluation. U.S. Army Corps of Engineers, \$20,919.

Battaglia, L. and V.A. Barko. 2006. National Great Rivers Research & Education Center Undergraduate Internship Program. Assessment of Exotic Plant Species in Restored, Unrestored, and Reference Bottomland Sites at the Illinois-Mississippi Rivers Confluence. Co-PI (with Loretta Battaglia), \$4,500.

Battaglia, L., V. Barko, and D. Henderson. 2006. Structural and Functional Indicators of Bottomland Hardwood Forests within the Upper Mississippi River Ecosystem. U.S. Geological Survey, Upper Midwest Environmental Sciences Center, LaCrosse, WI, \$73,055.

Fratto, Z.W. and V.A. Barko. 2006. The development and testing of four turtle bycatch reduction apparatuses in the Gasconade and St. Francis Rivers, Missouri. Missouri Department of Conservation, Fisheries Division, Jefferson City, \$24,239.

Outreach Highlights:

Nelson, F. 2006. Met with Glenn Chambers, Matt Gaunt (UM-C), and MU Forestry students to discuss Green Tree Reservoir management strategies and provide a photo opportunity for MU's Wetland Excellence Center brochure.

Ridings, J.W. 2006. Orchard Elementary School, Jackson MO. 6-9-06, Brandi Emory. The Creatures of the Mississippi River. Brought in live specimens of Mississippi River fish and turtles and described river adaptations for each.

Hrabik, R.A. 2006. Gave a program on fishes to pre-schoolers at Oak Ridge School. Showed them preserved fish of all kinds and talked about food and habitat. I also set them up with a native fish aquarium. 24 people.

Herzog, D.P. and R.A. Hrabik. 2005. "*Sampling the Big Rivers*": A gear demonstration to St. Louis University Ichthyology students. October 1, 2005. ~20 in attendance.

Professional Service

Hrabik, R.A., S. Speer, V.A. Barko, D.P. Herzog, D.E. Henderson, J.W. Ridings, Z.W. Fratto, and J. Crites. 2006. Hosted/volunteered at North American Native Fish Association Annual meeting in Cape Girardeau, MO.

Barko, V.A. 2006. Peer-reviewed one manuscript for *Transactions of the American Fisheries Society*.

Barko, V.A. 2006. Reviewed forty-five abstracts for *Northeastern Naturalist* and recommended Guest Editors.

Hrabik, R.A. 2006. Moderated the afternoon technical papers session at the UMRCC Annual Meeting, Hannibal, MO.

Barko, V.A. 2006. Ph.D. Committee member for Kenneth Cook, Southern Illinois University, Carbondale.

Barko, V.A. 2006. M.S. Committee member for Zachary Fratto, Southeast Missouri State University, Cape Girardeau.

Barko, V.A. 2006. Served as the Missouri Department of Conservation representative on MICRA's Mississippi River Basin Aquatic Nuisance Species panel.

Barko, V.A. 2006. Open Rivers and Wetlands Field Station representative and the LTRMP Analysis Team meetings.

Barko, V.A. 2005/2006. Adjunct faculty, Department of Biology, Southeast Missouri State University, Cape Girardeau.

Barko, V.A. 2005/2006. Adjunct faculty, Department of Zoology, Southern Illinois University, Carbondale.

Barko, V.A. 2006. Appointed to Board of Editors for the *Northeastern Naturalist*.

Barko, V.A. 2006. Peer-reviewed 2 manuscripts for *Wetlands*.

Hrabik, R. A. 2005. Provided fish taxonomy expertise for St. Louis Corps. Jackson, MO.

Hrabik, R. A. 2005. Moderated the Fisheries Technical Session, 59th Annual Conference, Southeastern Association of Fish and Wildlife Agencies, St. Louis, MO.

Information Transfer

Nelson, F.A. 2006. Provided Mickey Heitmeyer (Gaylord Laboratory) GIS layers Mingo Basin forest cover, elevations, planning design, LRDD boundaries, drainages for the Mingo Basin Evaluation.

Nelson, F.A. 2006. Provided Neil Young (PLS) with information on RCG and recommended control techniques.

Nelson, F.A. 2006. Provided Blaine Elliott (GIS Applications Biologist, Lower Mississippi Valley Joint Venture, USFWS) with GIS layers for the LMAV geodatabase. It included managed waterbird habitat and waterfowl sanctuary distribution for SEMO.

Nelson, F.A. 2006. Provided comments to Mike Roell to be considered on the June 2006 Draft of the Upper Mississippi River and Great Lakes Region Joint Venture Waterfowl Habitat Conservation Strategy.

Nelson, F.A. 2006. Communicated MDC's current situation with DMSV and provided Dr. Schultz (University of Massachusetts) with documentation for NSF grant proposal.

Nelson, F.A. 2006. Provided Mickey Heitmeyer (Gaylord Laboratory) GIS layers of the Bootheel's geomorphology at various scales or resolution for the Mingo Basin Evaluation.

Barko, V.A. 2006. Provided Mark Pyron (Ball State) and Todd Slack (MS Museum of Natural Science) with fish-floodplain reprint, per their request.

Nelson, F.A. 2006. Provided Art Kitchen (USFWS, Wisconsin RCG Working Group) with suggestions and considerations for RCG Management Recommendations Draft.

Herzog, D. P. 2006. Provided Dr. Henry Robison (Southern Arkansas University) reprints of recent publications.

Hrabik, R.A. 2006. Sent information on Pallid Sturgeon captures to Tony Volasco (USFWS, Frankfort, KY), who needed to know if Pallids were using tributaries to the Mississippi River. He was trying respond to a permit request in Kentucky that could cause water quality problems and affect endangered species.

Ostendorf, D. 2006. Sent a reprint of the turtle mortality paper to Chris Jones from Tennessee.

Barko, V.A. 2006. Provided Jonathan Bolland (Hull International Fisheries Institute, Univ. of Hull, U.K.) a copy of the fish-floodplain paper, per his request.

Barko, V.A. 2006. Provided Jinyan Sun (Chinese Academy of Sciences) a copy of the spatio-temporal fish assemblage paper, per his request.

Barko, V.A. 2006. Provided Reid Adams (UCA) with LTRMP reprints, per his request.

Ostendorf, D. E. 2006. Sent photos of white crappie, bighead carp, blackstripe topminnow, and bluegill to Lisa Oliver.

Ostendorf, D. E. 2006. Sent photos of sicklefin and sturgeon chub to Chris Grondahl, North Dakota Game and Fish Department for a poster they are having illustrated.

Ostendorf, D. E. 2006. Sent photos of sicklefin chub, sturgeon chub, western silvery minnow, channel catfish, warmouth, and slimy sculpin.

Hrabik, R.A. 2006. A key to difficult to identify fishes was sent to Jennifer Stucker of the USGS, Jamestown, ND to help her young students identify small fishes from the Missouri River. Jennifer is investigating prey of Interior Least Terns. This was a key I developed in 1989 as part of a taxonomy workshop I hosted.

Barko, V.A. 2006. Sent Joe Dillard (MDC), Mark Boone (MDC), Bill Turner (MDC), Frank Nelson (MDC), Brooks Burr (SIUC), Barry Johnson (USGS - UMESC), Keith Gido (KSU), Lance Williams (OSU), Kenneth Cook (USACE – Rock Island), and David Galat (USGS – Columbia, MO) a copy of the fish/floodplain reprint, per their request.

Ostendorf, D. E. 2006. Sent photos of Mosquito fish to Martin Erickson, Fish Habitat Specialist, Manitoba Water Stewardship Fisheries Branch, Winnipeg Manitoba.

Hrabik, R. A. 2006. Provided the EPA with lists of fish species and an indication of which basins (Missouri, Mississippi, and Ohio Rivers) support viable populations of particular species, and which may be waifs or strays, and trophic guild information to be used in the development of ecological health indicators; part of EMAP-GRE.

Hrabik, R. A. 2006. Captured a Mudpuppy in Apple Creek (a new county record), and provided Jeff Briggler with collection data and a location map for the herp database.

Barko, V.A. Sent Dr. Michael Kaller (LSU – Baton Rouge), a copy of the Bogue River fish assemblage publication, per his request.

Barko, V.A. 2006. Provided Ruth Nissen (WDNR) with information regarding Glass Shrimp for an article being written for the Wisconsin Natural Resources magazine.

Barko, V.A. 2006. Provided Georges Carrel (UR Hydrobiologie, France) a copy of the Bogue Chitto fish assemblage paper, per his request.

Barko, V.A. 2006. Provided Dr. Oscar Pung (Georgia Southern University) a copy of the shrimp paper, per his request.

Ostendorf, D. E. 2006. Sent photos of Gilt, Bluebreast to Thomas Simon Indiana Biological Service for updating a web page on T & E species.

Ostendorf, D. 2005 Sent photos of silver, bighead, and grass carp to Chris Riggert for a presentation he was working on.

Barko, V.A. 2005. Provided Elise King (Monash University – Victoria, Canada) with a reprint of the wing dike manuscript, per her request.

Barko, V.A. 2005. Provided Andrew Van Eck (University of Washington) a copy of my dissertation dataset so he can include it in a meta-analysis on mammals and fragmentation, per his request.

Ostendorf, D. 2005 Sent photos of sicklefin and sturgeon chub to Eileen Dowd Stukel Wildlife Diversity Coordinator for the South Dakota Dept. of Game, Fish and Parks for a publication they are revising on T&E species for the general public.

Hrabik, R.A. 2005. I provided a synopsis of 2004 Big Oak Tree State Park fish and turtle data to Ken McCarty of the Missouri Department of Natural Resources. A final report will be completed this winter.

Hrabik, R.A. 2005. Created the ISN (Interbasin Standardization Network) as a result of a conference call last summer. The ISN is an internet forum designed to facilitate information concerning standardization of sampling techniques and telemetry of sturgeons (and other rare fishes) between the Missouri and Mississippi Rivers. Feedback has been positive so far but it must be used to make it useful.

Barko, V.A. 2005. Provided Elise King (Monash University – Victoria, Canada) with a reprint of the wing dike manuscript, per her request.

Ridings, J.W. 2005. Gathered and sent Mississippi River american eel data to Peggy Horner (MDC) for U.S. fish and Wildlife Service. Data set consisted of 90 records.

Brothers, E.L., and R.A. Hrabik. 2005. East Fork Black River database completed and sent to Paul Cieslewicz.

Hrabik, R.A. 2005. Provided Dr. Raymond Bauer (University of Louisiana-Lafayette) with reprint, information, and data on Ohio Shrimp (*Macrobrachium ohione*). Future discussions could lead to a cooperative project to learn more about the biology of this species in the northern reaches of its range.

Herzog, D.P., R.A. Hrabik, and D.E. Ostendorf. 2005. Trawling demonstration workshop. Conducted a sampling demonstration on the Grand River - Chillicothe, Mo. October 5-6, 2005. 12 in attendance.

Herzog, D.P. 2005. Provided Rob Colombo (SIUC) with catch data from our shovelnose sturgeon sampling from 1996 thru 2002.

Ostendorf, D. 2005 Sent photos that I took during our Pennsylvania trip to Rick Spears.

Ostendorf, D. 2005 Sent photos of big river fish, sampling and scenery to Mike Bayless for a presentation he was giving.

Ostendorf, D. 2005 Sent photos of black buffalo to Steve Delain at the Lake City field station.

Barko, V.A. 2005. Provided Linda Poirier (Environment Canada, Montreal) and Dr. Kenneth Brown (LA State Univ.) a copy of the Bogue Chitto River paper, per their request.

Barko, V.A. 2005. Provided Dr. Arthur Benke (Univ. of Alabama) a copy of the spatiotemporal fish assemblage paper, per his request.

Barko, V.A. 2005. Provided Mary Veldon a copy of the Ohio Shrimp paper, per her request.

Barko, V.A. 2005. Provided Julie Fleming, Vince Travnicek, Ranfy Noyes, Peggy Horner, Valerie Hentges, Cingy DiStefano (MDC), Dr. Brooks Burr (SIUC), and Dr. Lance Williams (Ohio State Univ.) a reprint of the Crystal Darter paper, per their request.

Barko, V.A. 2005. Provided David Seburn (Seburn Ecological Services, Ontario) with a turtle mortality reprint, per his request.

Herzog, D.P. 2005. Provided Michael B. Griffith (USEPA, NCEA, Ohio) with a reprint of trawl manuscript, per his request.

Herzog, D.P. 2005. Provided Jeff Quinn (Arkansas Fish and Game, Arkansas) with a reprint of trawl manuscript, per his request.

Herzog, D.P. 2005. Provided Philip Cochran (St. Marys University, Minnesota) with a reprint of trawl manuscript, per his request.

Herzog, D.P. 2005. Provided John D. Stark (Cawthron Institute, New Zealand) with a reprint of trawl manuscript, per his request.

Herzog, D.P. 2005. Provided Craig Brand (NSW Fisheries Technology Unit, Australia) with a reprint of trawl manuscript, per his request.

Barko, V.A. 2005. Provided George Zug (Smithsonian Institute) with a turtle mortality reprint, per his request.

Ostendorf, D. 2005 Provided Ken West with plenty of carp for John Watkins who needed the fish for bald eagle and critter feed.